

Test Report

Verified code: 130605

Report No.: E202403143863-6

Customer: Hangzhou Moyu Technology Co., Ltd

Address: Room 4069, Building 2, Xixi Lotte City, Wuchang Street, Yuhang District hangzhou
Zhejiang 311122 China (Peoples Republic Of)

Sample Name: Pet Tracker

Sample Model: M200d

Receive Sample Date: Mar.21,2024

Test Date: Mar.27,2024 ~ Apr.08,2024

Reference Document: CFR 47, FCC Part 2.1091 Radio frequency radiation exposure evaluation:
mobile devices.

Test Result: Pass

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GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2024-06-13

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E202403143863-6	Original Issue	2024-05-29

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1. GENERAL DESCRIPTION OF EUT

1.1 APPLICANT

Name: Hangzhou Moyu Technology Co., Ltd
Address: Room 4069, Building 2, Xixi Lotte City, Wuchang Street, Yuhang District
hangzhou Zhejiang 311122 China (Peoples Republic Of)

1.2 MANUFACTURER

Name: Hangzhou Moyu Technology Co., Ltd
Address: Room 4069, Building 2, Xixi Lotte City, Wuchang Street, Yuhang District
hangzhou Zhejiang 311122 China (Peoples Republic Of)

1.3 FACTORY

Name: Hangzhou Moyu Technology Co., Ltd
Address: Room 4069, Building 2, Xixi Lotte City, Wuchang Street, Yuhang District
hangzhou Zhejiang 311122 China (Peoples Republic Of)

1.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Pet Tracker
Model No.: M200d
Trade Name: /
Adding Model: /
FCC ID: 2BGPO-M200D
Power Supply: DC 3.85V by battery, DC 5V by USB cable for charging
Battery: DC 3.85V/790mAh
Hardware Version: V1.0.0.2
Software Version: V1.0.0.1
Antenna type: Internal antenna
Maximum Antenna Gain: LTE Band 2: 1.64dBi
Category: Category 1
Power Class: 3
Frequency range: LTE Band 2: Tx 1850MHz~1910MHz, Rx 1930MHz ~ 1990MHz
Bandwidth: LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
Modulation: QPSK, 16QAM
Sample No.: E202403143863-0001, E202403143863-0002

IMEI: 861261029936727

Temperature Range: -20°C~+70°C

Voltage Range: DC 3.5V~4.2V

Sample Submitting Way : ☒ Provided by customer ☐ Sampling

Note:

The basic description of the EUT is provided by the applicant. The antenna gain is provided by applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

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2. LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

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2.1 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	A2LA(Certificate #2861.01)
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The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	ISED (Company Number: 24897, CAB identifier:CN0069)
USA	FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site,
<http://www.grgtest.com>

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3. EVALUATION METHOD

Exposure category: General population/uncontrolled environment

EUT Type: Production Unit

Device Type: Mobile Device

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

In accordance with KDB447498D04 Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (*Evaluated_k* term) shall be used to determine exemption for simultaneous transmission according to Formula (C.1)

$$\sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1 \quad (C.1)$$

Evaluated_k the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation.

Exposure Limit_k either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable sources, as applicable

the sum of the ratios of the applicable terms for SAR-based, MPE-based and measured SAR or MPE shall be less than 1, to determine simultaneous transmission exposure compliance

4. LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

For mobile devices at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in Table B.2 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1)

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (B.1)$$

(B.2) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength(H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100,000	/	/	1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

5. CALCULATION METHOD

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to anisotropic radiator

R=distance to the center of radiation of the antenna

From the EUT RF output power, the minimum mobile separation distance, d=20cm, as well as the maximum gain of the used as following information, the RF power density can be obtained.

Table 1 Antenna Specification

Frequency Band	Antenna type	Maximum antenna Gain (dBi)
FDD LTE Band 2	Internal antenna	1.64

Table 2 Transmit Power

Frequency Band	Mode	Maximum Output Power (dBm)	Tune-up maximum output power (dBm)
FDD LTE Band 2	15MHz	24.31	25.00

Note: The maximum output Power of LTE were refer to the report E202403143863-5.

6. ESTIMATION RESULT

6.1. MEASUREMENT RESULTS

STANDALONE MPE

Mode	Frequency (MHz)	Tune-up maximum output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
FDD LTE Band 2	1850 - 1910	25.00	1.64	26.64	461.32	0.13	1.0

Remark: MPE use distance is 20cm from manufacturer declaration of user manual.

7. CONCLUSION

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

----- End of Report -----